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ORIGINAL DEPARTMENT.

LECTURE.

ON TOXICOLOGY.

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CONDENSED BY C. C. VANDERBECK, M.D., PH.D.

Toxicology is the science of poisons. Its scope is wide, including in its consideration the natural history, properties, effects, and tests of poisons. The frequency of poisoning cases makes the subject of Toxicology of importance to every medical man. It is estimated that over two thousand persons die annually in Great Britain from the effects of homicidal and suicidal poisoning. What is a poison? It is *not* determined by minuteness of dose. It is not a substance that kills by mechanical injuries, as glass. It may be defined as a substance which, when introduced into the body by any avenue, is capable of producing, as an ordinary result, a noxious effect upon a healthy system. Let us analyze this definition. In the first place, the avenue of entrance into the body need not be confined to the mouth, or stomach. It may gain access through the lungs, as a gas; from the rectum; from the vagina; by means of the hypodermic syringe, etc. Again, the noxious result must be an ordinary one. Eggs, strawberries, and other simple and usually harmless articles have, in a few instances, produced violent and alarming symptoms; this is not an ordinary, but an extraordinary, effect. Thirdly, the noxious effect must occur in a healthy individual. Any article whatever, even simple water, will act as an irritant in some morbid conditions of the body, especially in some gastric difficulties. It is evident, therefore, that the test cannot be applied in sickness. The dose, or amount necessary to produce this noxious effect, after all, is of not much value. One grain of strychnia will kill; but it requires half an ounce of oxalic acid to produce the same result. The court does not care for the *dose;* if the *intention* was to kill, death by the acid is as criminal as by the strychnia. In fact, this applies as well to drugs ordinarily considered not poisonous. Half a pound of common salt given for worms, and two ounces of Epsom salts, used for the same purpose, have killed. In the last case, death resulted within the hour. If it could be proven that there was evil intention in administering these drugs, and whether death occurred or not, it would constitute the crime of poisoning.

In the indictment it reads: "Killed from poison, or some other destructible thing." The latter half of this clause is added so as to cover those cases which might elude the law on account of the plea of the substance not being a poison.

The administration of powdered glass, though not a true poison, is as criminal as though it were arsenic. The *modus operandi* of poisons is the same as that of medicines—through the circulation. It is only while the poison is circulating in the blood that it is active. The arsenic or the opium found in the stomach during a post-mortem examination is not the very poison that caused death; it is that which has entered the circulation and produced its specific effect upon the organism. Just the same in regard to medicines; various circumstances affect

absorption. There is nothing vital about the absorption; it is simply imbibition—entering the vessels of the stomach. It is very important to bear in mind that absorption can occur from the sound skin, more especially in delicate-skinned infants. In such, the external application of laudanum must be used with care, as narcosis may thus be produced. The most rapid absorption occurs from the lungs, as is evinced in the use of anæsthetics; very rapid from cellular tissue; less rapid from the stomach, and least quickly from the true skin. There are a few poisons that act solely, or chiefly, locally, as mineral acids and strong alkalies; the majority, however, act remotely from the seat of application. The strong acids may sometimes cause very serious and even fatal general symptoms, through the intervention of the nervous system, producing shock. There are three main proofs that most poisons are absorbed: 1st. The substance may be found in the secretions; 2d, may be found in the solids; 3d, may be found in the blood. Why poisons should cause death, even after gaining entrance to the blood, is not an easy question to answer. A hypothesis is that the poison combines with the tissues, forming a compound that interferes with function; another one is that the blood is devitalized. If the last were the case, would we not expect the blood globules to be changed? It seems they are not, as far as we are aware, altered in the least. There is one thing certain—some poisons are not eliminated the same as they were taken. Oil of bitter almonds is eliminated as hippuric acid—the oil has been oxidized; chloroform, as formic acid, etc. Poisons, like certain medicines, have affinities for certain organs, as opium for the brain, ipecac. for the stomach, digitalis for the heart, etc. The cause of this affinity is unknown, and perhaps the reason will never be discovered. The action of poisons is modified by (1) those things relating to the substance itself, and (2) by the condition of the system. As a rule, the larger the dose of the poison the more certain the effects. There are exceptions to this rule, as large doses may insure emesis, and thus evil effects be obviated. A solution is the form most readily absorbed. Mixing of substances may lessen or intensify the poisonous action. The vegetable acids make the alkaloids stronger, by rendering them more soluble. Demulcents lessen the evil effects of irritants. Arsenic and irritants act less energetically upon a system narcotized with alcohol. There seems to be an antagonism, also, between opium and corrosive sublimate. There is a case on record where half an ounce of tincture of opium and four drachms of corrosive sublimate were taken at the same time. The symptoms were modified, no acute symptoms being present; no vomiting occurred: death took place in four days, from the combined effect of salivation and dysentery. Morphia and prussic acid are alleged to be antagonistic. The Professor has experimented on this point, and he concludes that these poisons are never antagonistic if given in poisoning doses. If they are administered in quantities just within the death dose, symptoms of both drugs arise. The systemic modifications of the action of poisons are (1) habit, especially with narcotics, but not much with irritants. Apparent exception, the arsenic eaters of Styria. 2. Idiosyncrasy. 3 Disease. Brain diseases increase the activity of poisons, save mania, tetanus, and delirium tremens. Bright's disease heightens the action of mercury. 4. Tolerance. 5. Sleep. Instantly sleeping after taking a poison, the effect is retarded. The post-mortem imbibition of poisons is possible, but to an extremely limited extent. The question whether a poison can be injected into a dead body, through malice, and will it after a time be found in the liver and other viscera, reaching them by osmosis, may be answered in the affirmative. The evidence of poisoning is divided into five groups: 1. Symptoms before death. 2. Post-mortem examination. 3. Chemical examinations. 4. Experiments on the lower animals with the suspected poison. 5. Moral circumstances.

Too much stress must not be laid upon symptoms alone; disease so often has symptoms closely resembling poisoning. Cholera morbus, peritonitis, cholera, hernia, rupture of the stomach or of the uterus, any one of these may resemble irritant poisoning; apoplexy, epilepsy, tetanus, or hysteria may simulate narcotic poisoning. Asiatic cholera closely acts like tartar emetic poisoning; cholera morbus like arsenical irritation. Neither are pathological lesions always definite and certain—no more positive than symptoms; in fact, both together cannot furnish proof positive of poisoning. Mere lesions, then, are not proof of poison, and, on the other hand, absence of lesions do not prove that death did not result from poison. Again, the precise value of chemical examinations and investigations may be overrated. Their great value is certain, but too much is often expected

of them. The causes of some of the failures of chemistry to detect the poison are—1. Some poisons are too subtle, as snakebite, rabies, aconite, etc. 2. The disappearance of the poison by vomiting and purging. 3. Disappearance of same by absorption. 4. Decomposition of same in the blood, especially of animal poisons; but it is not so apt to be the case with mineral poisons. A chemical analysis is not always necessary to convict, if the other sources of evidence are available. Failure to find poison may not always be in favor of the prisoner. Large quantities found *suggest* suicide.

COMMUNICATIONS.

ON SYMPATHETIC OPHTHALMIA.

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The deeper study of the sympathetic affections of the eye first aroused by Mackenzie's eminent work on Iritis Sympathetica, has since then never ceased to claim the full attention of our professional men. But although the clinical material for the judgment of this object is daily increasing, and full of manifold observations, the process of the disease is yet far from being known in all its characteristics, and many questions are waiting for solution, which, if rightly conceived and explained, are called to settle that contention of opinions which in this very chapter of eye diseases is so singularly prominent. Therefore every additional treatise that is able to increase and widen our knowledge of the character of sympathetic ophthalmia must be welcome indeed.

The question of sympathetic ophthalmia is one of the most difficult of our special science; for the forms in which the disease appears and takes its course are extremely manifold and different, eluding all attempts at narrow classification. The principles which in one case are right and fitting, are utterly at fault in others, and our experience gained from a long line of observations is shaken, even overturned, by appearances the observation of which had until then escaped our view.

The character of sympathetic ophthalmia is as follows, viz.: In consequence of a long-continued state of excitement in the interior of the eye, directly or indirectly attacking the ciliary body, the other eye, which until then had remained healthy, is drawn secondarily into the same process of inflammatory disease. The transmission of this so-called sympathetic excitement takes place by means of the ciliary nerves. All circumstances which cause irritation of the ciliary body and the ciliary nerves must be looked upon as predisposing causes of sympathetic ophthalmia. Every strain of the iris or of the ciliary body, every direct irritation of the ciliary nerves, may give rise to sympathetic ophthalmia, be it through compression after a perforating injury; be it through retraction caused by the formation of cicatricial tissue; or be it in consequence of a pathological process, such as calcification or ossification in the interior of the eye.

But, as the most frequent cause of sympathetic ophthalmia must be considered the remaining of foreign bodies, which have penetrated into the interior of the eye, wherever we meet cyclitical processes, where sympathetic ophthalmia threatens, the suspicion that a foreign body in the eye is the cause of this irritation must at once arise, and induce us to examine conscientiously this point. And here we must depend, in very many cases, upon objective examination alone, as the answers of the patient cannot be relied upon.

It is well known that foreign bodies may remain for years in the interior of the eye without causing the least irritation. The process is as follows, viz.: A small foreign body has penetrated into the interior of the eye, destroying its vision through slow inflammation. Thereupon the inflammatory process, exhausting itself, stops, and the eye becomes quiescent. But this quiet is fallacious, for after an intermission of years, suddenly there appear new phenomena of inflammation and exudation, which are able to draw into sympathy the healthy eye.

If the injury has taken place in infancy, many patients have lost all recollection of it, and stubbornly refuse every hint at the possible presence of a foreign body in the blind eye.

Should the physician, relying upon the answers of his patient, be led to neglect, in his objective examination, that degree of exactness which the exploration of the eye demands, and which is the first requirement of a correct diagnosis, he will become the victim of vague surmises, and in case of failure be personally responsible.

Even if the patient should deny the possi-

bility of an injury received years ago through a foreign body, the cornea and the lens must be critically examined, according to the known rules of ocular science, when the presence of small scars will lead to safer conclusions than the answers of the patient.

Unfortunately, even the objective diagnosis sometimes forsakes us, and then we have noth ing left but to form a diagnosis of probability. A sure objective diagnosis is, therefore, in such cases, of the utmost importance, because thus only do we gain a safe foothold for the indication of a rational treatment; and in many cases save the patient from total blindness.

In all cases of sympathetic ophthalmia in which the presence of a foreign body in the eye can be established with certainty, or even with some probability, the enucleation of the eye is the only safe proceeding, to avoid the dangers which threaten the other eye. The removal of the cause is here also the first indication.

In those cases, however, in which the presence of a foreign body can with certainty be excluded, and where the irritation is confined to the blind eye, the enucleatio bulbi is not at once indicated. Here we frequently succeed in removing the inflammatory phenomena, and in arresting the progress of the disease through medication, or some operative treatment.

The gain in saving the patient from such a severe operation as the enucleatio bulbi is large enough to warn us from an over hasty or unexceptionable removal of the blind eye as a preventive measure.

Furthermore, there are cosmetic reasons to be considered. The patient is not indifferent to wearing an artificial eye, and frequently the blind eye is pathologically so little changed that its preservation in the orbit is not to be lightly valued, for the sake of appearance only. But here, also, no fixed rules can be given, and what in one case may be perfectly suitable, would, in another, lead to great damage. We depend here, more than anywhere else, upon the surrounding circumstances; and it is just here where the physician is forced to abandon all fixed rules, and to adapt his treatment to every individual case.

Wartmont, in the Ophthalmological Congress at London, in the year 1872, defended the principle—"In all cases in which the eye has been destroyed by injury, the bulb should be enucleated." I cannot accede to this principle unconditionally. It is, indeed, the safest and shortest way of proceeding. The patient is saved from a tedious process of cure, and protected against all those dangers which the presence of a destroyed eye may cause. But in very many cases in which the patient refuses the proposed enucleation, we are forced to look for other means, and to adopt a different method which also promises a favorable result. As an instance I would refer to the resection of the ciliary nerves, about the indications of which I must postpone further remarks until some other opportunity.

In such cases, however, where every other treatment is useless, where the irritations are repeated, where the free intermissions are growing shorter, the enucleation of the blind eye must be immediately performed, in order to remove the danger from the other eye, as well as to enable the patient to return to his occupation. Here, also, no unconditional indications can be given, and the physician is forced to shape his actions according to the necessities of the case.

We have stated above that the presence of a foreign body in the bulb demands the removal of the eye. How long a foreign body may remain in the eye without giving rise to sympathetic ophthalmia, is as yet an open question. Soelberg Wells observed a case where even twenty-six years elapsed after the penetration of the foreign body, before the sympathetic irritation of the other eye set in. In the case which I shall describe further on, a lapse of at least twenty years must be presumed. In like manner a foreign body may remain for several years in the eye without giving rise to inflammatory symptoms in the same, and where a certain degree of vision may be preserved. We have here to deal with the same processes which take place in other parts of the body. There, also, we have not unfrequent opportunity of seeing a foreign body remain for years without exciting irritation, although, excepting cases of encysted foreign bodies, we are completely at a loss how to explain the strange fact that an irritating cause should have existed so long without producing a state of irritation.

Finally, I would like to call the attention to another fact. The occurrence of sympathetic ophthalmia in the remaining healthy eye has been considered, and justly so, as one of the most prolific causes of considerable, if not complete, loss of sight. The enucleation of the primarily affected eye is here absolutely neces-

sary, when most energetic measures must be adopted against the secondary affection. Here, too, we meet with most singular phenomena We find cases of so-called intermittent sympathetic ophthalmia, in which the exacerbation is followed by a complete remission, and the eye loses every appearance of irritation, retaining its power of vision. This process of acute exacerbation and remission may repeat itself frequently, always with the same final result, while the primarily affected eye is continually suffering from the irritation caused by the presence of the foreign body.

The three following cases may serve to illustrate and explain the several views here stated.

1. L C. F., aged 25 years, worker in metals, called upon me on the 14th of May, 1874. His complaint was, that for a year his right eye (the only one remaining capable of work) was growing steadily weaker, so that it at present refused all service. It seems to him that a mist veils all the objects which he looks at. The common daylight causes discomfort. Upon the least exertion the eye becomes irritated and waters profusely. An insufferable pressure is felt in the forehead and in the temporal region, which incapacitates him for his work.

Status præsens.—Right eye. Cornea clear; anterior chamber normal; texture of the iris not affected pathologically. Pupil very contracted and extremely slow to react upon light. Even the slightest attempt at accommodation is followed by the appearance of a fine sub-conjunctival injection. Intraocular pressure not changed. Vision = $\frac{1}{5}$. Jaeger 10; with + 10 Jaeger 3. Of the different colored glasses held to the eye, blue alone seems to effect a slight improvement of vision. An exact measurement of the field of vision cannot be effected; but it seems to be somewhat impaired. Upon the application of atropia the pupil dilates but very slowly, and only to an average degree. Lens and vitreous humor are clear. The retina strongly hyperæmic. In its periphery the vessels are covered with a fine serous infiltration.

Left eye. Cornea clouded in the entire lower half, intersected with radial lines. Dimness of membrane descemetii. Anterior chamber shallow. Texture of iris disorganized. Iridectomy below and inward, above and outward. Iris tremulans. Vitreous humor clouded. Intraocular pressure somewhat lessened. Ciliary region more sensible to pressure than on the right side, but not inordinately painful. Vision: There is hardly any perception of light, but no localization of it whatever.

The eye has been operated upon at two different times. The patient cannot fix any time, nor give any reason for the blindness of the left eye. As far back as his recollection reaches, the left eye has always been blind. Inflammations have repeatedly appeared in the same, for which he had at various times employed medical attendance. He emphatically denied that the eye had ever been injured. This question had been put to him by several physicians; but he has always answered in the negative, as neither his parents nor his brothers had ever made mention of such a circumstance.

In spite of the patient's emphatic denial, this case conveyed to my mind the impression that a foreign body in the interior of the eye must be the cause of this long-continued state of irritation, and of the first signs of sympathetic ophthalmia now making its appearance. From this point of view, and in consideration of the critical state of affairs, I proposed to the patient enucleation, as the only means of safety. The patient consented, and the operation took place the same day.

On opening the bulb, I found on the anterior surface of the corpus ciliare an elongated splinter of rusty iron pointing downward and outward. The lens in its capsule floated in the dissolved vitreous humor, opaque, thickened, and of a brownish-black color.

The right eye now quickly recovered; on the 27th of May it had vision $\frac{1}{5}$, and could read without convex glass Jaeger 3; with + 10 Jaeger at 6″. Subsequently the vision rose to $\frac{1}{5}$, and Jaeger 1 could be read without a glass at 5″–15″. The result was a permanent one.

Here we have a case where a foreign body penetrating into the eye remains there at least for over twenty years, causing repeated attacks of inflammation without drawing the other eye into sympathy during this whole period. The patient positively affirmed that until within a year the right eye had always remained healthy. This is confirmed by the objective examination, and by the mode of treatment of the physicians previously in charge of the case. As the right eye remained intact, they were all the more justified in leaving out of consideration the presence of a foreign body, because the patient emphatically denied the possibility of its pres-

ence. Therefore they regarded the case as one of irido-cyclitis, with its subsequent phenomena, and they directed their therapeutics exclusively to this supposed trouble, and not without a temporary success.

After more than twenty years' presence of the foreign body in the blind eye, the irritation begins to be transmitted to the remaining healthy eye. The progress of the disease is extremely latent. A whole year passes, until the patient, who is obliged to use his eye continually, is forced to call in the aid of a physician. Even then the pathological changes which the eye has undergone must be called insignificant in comparison with the primary cause. So imperceptibly and insidiously may malignant sympathetic ophthalmia develop itself, that we are obliged to judge of the danger which threatens the patient more from his complaints than from our objective examinations.

Enucleation of the eye was performed, and the splendid success which resulted would add necessarily another proof, that even after the occurrence of sympathetic inflammation the enucleation of the primarily diseased eye should be resorted to without delay.

2. B. F., 35 years old, employed in a factory; presents himself to me on the 19th of February, 1869. A few hours before, during his work, a splinter of iron flew into his right eye.

Status præsens.—The bulb is somewhat soft; moderate subconjunctival injection. On the upper periphery of the cornea, a little on the inner side, is found a ragged wound, and obliquely across a narrow, slit-like opening through the iris. In the anterior chamber a small extravasation of blood, which has settled downward; pupil strongly contracted. Vision—fingers at 10′. Jaeger 20. Field of vision somewhat limited, downward and outward. Pupil moderately dilated upon atropia. Lens apparently unclouded. Slight dimness in the vitreous humor. The background of the eye a little veiled; on the upper part a slight exudation, in which appears a small point of metallic lustre. The suspicion that the foreign body had remained fast in the retina was thus confirmed.

I at once called the patient's attention to the seriousness of the injury, alluding to the possibility that the eye might have to be enucleated, as the only means of saving the other one. I refrained from an immediate operation because the patient would not fully believe that his case was so serious, and because some vision still remained. I confined myself preliminarily to the usual treatment of the patient.

The injured cornea healed rapidly and without irritation. The pupil remained in a state of medium dilatation. The wound of the iris was closed by exudation, which adhering to the anterior capsules of the lens, gave rise to a refraction of the iris. The dimness of vitreous humor did not increase. The part of the retina where the foreign body had been wedged in appeared cloudy, softened, bulging outward, and showing a deposit of pigment, and of scattered placques of the size of a pin's head. Vision and peripheral limitation of the field of vision remained the same.

On the 10th of March the patient was discharged from treatment, and returned to his occupation. I did not see him again for five months, when a small splinter of iron penetrated the right cornea, and he again sought my assistance. The left eye had remained quiet during the whole time. I found the refracting media clear; not the slightest sign of dimness in the vitreous humor; the intraocular pressure normal; retina in the superior-interior quadrant bulging out, and occupied by a thick layer of pigment, closely packed together, which completely covers the vessels of the retina. Every sign of the foreign body has disappeared. Vision—fingers at 8′. Jaeger 22. Field of vision limited below.

Until January, 1876, I had an opportunity to examine the patient from time to time, but I could never perceive a change from the state last mentioned. The right eye during the whole time retained its full power of vision. Whether this is a fortunate case, in which the foreign body has become encysted, or whether this quiet state is, after all, delusive, time must show.

3. C. D., aged 25, servant girl; consulted me August 22d, 1873, on account of disease of both eyes. About a year ago, while splitting wood, she was wounded in the left eye by a small chip flying off. Inflammation set in, in consequence of which blindness followed. Since that time inflammation had frequently occurred, and just as frequently had disappeared without treatment. Some weeks afterward the right eye, which until then had remained

in good health, began to suffer. It frequently grows red, with photophobia and much watering. The power of endurance of the eye has been much impaired, the vision but little. In the free intermissions which do occur, the most aggravating trouble is the appearance of scintillations before the eye.

Status praesens.—Left eye. Phthisis bulbi; strong peripheral injection. Cornea shows in the superior-interior quadrant a scar in which the prolapsed iris has grown fast. Cataracta traumatica. Anterior chamber very shallow. Posterior synechia; iris much disorganized and retracted; ciliary region extremely painful to the slighest touch; perception of light only downward.

Right eye. Around the limbus conjunctiva a light red seam of extremely fine vessels, closely packed together. Photophobia and watering moderate; pupil contracted; texture of iris diffused, of a greenish hue; ciliary region painful to the touch. Vision, $\frac{1}{40}$. Of colored glasses the blue only improves the sight, which then increases to $\frac{1}{30}$. With the naked eye Jaeger 5 is read, with +10 Jaeger 3 at 6′, even single words of Jaeger 7. The field of vision is not confined. After atropia the pupil dilates but very gradually, and only in a moderate degree. Refracting media clear; in the background of the eye we find only some hyperæmia of the retina.

We have here to deal with the preliminary state of sympathetic ophthalmia called forth by the transmission of the irritation from the other primarily diseased and blind eye. The safest and best way to put a stop to the latent inflammation and threatening blindness was the removal of the cause of danger. Enucleation of the primarily diseased eye could be performed the more readily, as it was phthisical, hardly showed partial perception of light, and as the presence of a foreign body in the interior could with great probability be assumed as the cause of the repeated inflammations. I therefore called the patient's attention to the threatening danger of total blindness, and advised enucleation as the only means of preventing the destruction of the other eye. I considered myself justified in saying that any further delay would irretrievably ruin the right eye. The patient would not consent to an enucleation, and maintained her will, until the spring of this year, when I saw her for the last time.

The eye remains as follows, viz.: The cyclitical phenomena in the right eye come and go at irregular intervals. During the acute exacerbation vision diminishes to $\frac{1}{70}$, as I had frequent opportunity of proving. During the remissions the eye is without irritation, and vision rises to $\frac{1}{30}$. The patient is a cook, and is able to do her work.

The left eye never shows anything but slight peripheral injection, and painfulness to touch in the ciliary region.

Her menstrual period is regularly accompanied by increased irritation of the right eye, combined with photophobia and watering. The scintillations are at this time considerably more vivid. Vision changes between $\frac{1}{30}$–$\frac{1}{40}$; Jaeger 4 is read; convex glasses give no improvement. The field of vision is intact. In the background of the eye there is only some hyperæmia.

I had advised the patient to apply leeches to the right temporal region during the acute exacerbations, and to use atropia as long as the eye appears reddened on awakening in the morning. These directions are conscientiously obeyed. And this condition of affairs has been dragged already over a period of three years.

It is hardly to be supposed that the leeches and the atropia, which I had prescribed as an ultimate resource (merely for the sake of doing something), had the power to retard in any considerable degree the development of the pernicious process. I would rather believe that entirely different agents come into play, which have rendered the process of the disease intermittent, and have so far postponed its full development and a fatal issue.

For three years the stubbornness of a patient has gained the victory over the maxims of science. During three years the patient has been the object of our observation, which shows that the sympathetic ophthalmia, which has already attacked the healthy eye, does not necessarily lead to its rapid destruction, but that a state of alternate acute exacerbations and remissions may exist, in spite of the primary cause remaining in full force.

How long this state may continue it is impossible to tell. It is not improbable that the foreign body in the left eye may become encysted. The irritating cause will then cease to exist, and the right eye come out unharmed from this prolonged struggle. But we must never lose sight of the possible event of total blindness.

OBSTETRIC PRACTICE IN VIRGINIA.

BY FREDERICK HORNER, JR., M.D.,

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This department of medical science often presents difficulties to the young practitioner who may prefer medical practice or surgery. If unmarried he may wait long to treat a case. Then he may lack a knowledge of mechanics so important to the successful accoucheur. If located in our Southern country he will find the midwife preferred rather than the physician. A careful study of the various diseases of women and children furnishes the basis of education to the youthful physician, and he will find that tact, learning, skill, and sound judgment are demanded in the treatment of the majority of labor cases. In the rural districts of the Southern States the practice of midwifery is delegated largely to negro midwives, usually ignorant and superstitious. Hence serious accidents and loss of life often occur, for which the profession is in no wise responsible. Public sentiment has been slow to perceive the consequences of such ill-advised practice; it may be, from motives of parsimony. Then, again, it is a fact that women naturally shrink from the approach of a male physician, unless in the more enlightened walks of society.

Case 1.—Dystocia, or difficult parturition. The lady was of English birth, youthful, well formed, with a large pelvis, and in good health; primipara. Labor came on a week or more sooner than was expected, with copious flow of fluids from the vagina. On examination rigidity of the os uteri and unusual narrowness of the arch of the pelvis existed. The presentation was occipito-frontal. The anterior fontanelle could be discerned. The birth went on well during the second stage of the labor, until the head engaged in the inferior strait, when digital examination disclosed the head locked under the pubic arch. It was decided not to attempt to turn and deliver by feet presentation. Tincture gelseminum and fluid extract ergot, each five drops, with five-grain doses of sulph. quinine, were administered, to assist the expulsive efforts of nature.

In the course of twenty-four hours the bearing down pains became excruciating, accompanied by feeble pulse, debility, and change of countenance. The above prescription had been repeated every hour. On the exhibition of Squibbs' sulphuric ether, considered to be safer than chloroform, the patient became wild with excitement. Notwithstanding the head had passed the os uteri, and was fairly engaged in the perineum, labor appeared to proceed no further; and on consultation with Drs. Frost and Speiden, operative procedure with the forceps was decided upon. to save the life of the patient, as well as the child. And here it may be remarked, for the benefit of the young practitioner, especially of the country, that it is always safer to have the counsel of a brother physician in cases where unforeseen accidents may occur, endangering life, and often demanding operative proceedings. After the administration of chloroform, inducing complete anæsthesia, a healthy, living child was delivered with the short French forceps. Fearing further difficulty from hour-glass contraction, the afterbirth and secundines were promptly removed. With the exception of moderate fever for several days, this patient recovered. As there was a tendency to inflamed mammæ, the symptoms were relieved by resorting to the common domestic application of a plaster of bees' wax, camphor and lard, melted down. Ignorant nurses will sometimes fail to apply the infant to the breast, but will use a sugar-rag to still its cries. A few drops of paregoric, or Dewees' carminative, is the more rational treatment. The patient should be kept quiet, and in the recumbent position, for at least a week or more, to allow the parts to heal, to avoid hemorrhage or retroversion. Notwithstanding the opinions of modern heroic obstetricians employed in hospital practice, custom and long established practice sustain the judiciousness of this advice. It may be added that this patient, during the second year after her confinement, suffered miscarriage, caused by a violent attack of lead poisoning, produced by the fumes of a house recently painted.

During the past ten years of obstetric practice in a healthy country district of Virginia, in which exists no epidemic causes of the terror of women and the physician, puerperal fever, originating often from the retention of small, adherent masses of the placenta, and clots of blood, the writer has had the opportunity of studying and treating cases of this description. There can be no doubt at the present time, as to the nature, cause, and rational treatment of this dreaded and fatal affection; the true pathology being so little understood twenty

years ago, when such men as Alonzo Clark, of London, were wont to advise, for its relief, opium, in repeated and enormous doses, and the application of the "Lost Art," startling to the modern and enlightened practitioner. Indeed, such practice is by no means uncommon at the present time, since, on the occasion of the late International Medical Congress, several speakers commended it.

Hence we accept the arguments, and the observations and experiments of such men as Mr. T. Spencer Wells, Lister, and Bedford Brown, of this country, that "in puerperal fever we have a contagious, continued fever, which is distinctly caused by a special morbid poison—true purulent infection, or pyæmia, putrid infection, or septicæmia, which may be produced by a difficult labor, followed by lesions seated in the womb, more frequently, however, from *retention of parts of the placenta and clots of blood;* the infective matter passing from the wound through the serous canals into the lymphatics, thoracic duct and subclavian vein, and finally infecting the blood."

With this statement of the pathology of puerperal fever accompanied by symptoms of metritis and peritoneal inflammation, in other words, true septicæmia, on what grounds can it be advised to use enormous doses of opium, or even the lancet, excepting to subdue acute inflammation? The attempt may be compared to an effort to relieve calculus in the bladder, as has been tried by narcotizing the patient, without operative proceedings, with opium, until death comes to the relief of the sufferer. The more rational method would be to employ antiseptic remedies, such as sulpho-carbolate of soda, and salicylic acid internally, and carbolic acid locally, to remove carefully particles within the womb that may be a source of contamination of the blood, and to allow free ventilation of the apartment of the lying-in woman.

Case 2.—Difficult labor, accompanied by full pulse, intense and protracted suffering, and signs of congestion of the brain, following the effort to wash and cook. Treatment, copious venesection, solution of morphine, and chloral hydrate, and fluid extract of ergot at intervals. Birth of still-born child covered with syphilitic eruption; hence the necessity of caution, to avoid inoculation.

Case 3.—Symptoms of dystocia; birth of a healthy infant. In the effort made by an ignorant nurse to remove the placenta, the funis was ruptured. A ligature was applied to arrest the bleeding, and delivery speedily effected by introduction of the hand into the womb. In all such cases there is great advantage, at the time that the vagina, os uteri, and adjacent parts are dilated, and previous to contraction, to complete the delivery of the after birth.

Case 4.—The patient received a fall when attempting to ascend a hill with a pail of water on her head. After great difficulty, delivery of a dead fœtus, bruised in nearly every part of the body, was accomplished. The patient was in feeble health at the time of the accident, during the seventh month of utero-gestation. As all efforts to remove an adherent placenta failed, it was decided to wait. On the third day the placenta came away without accident.

Case 5 occurred in the practice of a brother physician. There was adherent placenta, followed by symptoms of peritoneal inflammation and puerperal fever, with hemorrhage and the formation of a clot. Great prostration preceded by fearful forebodings during the stage of pregnancy. Efforts to induce reaction by stimulants, friction, ice to the pudenda, and applied to the surface of the womb, were ineffectual. After the birth of a living child, forcible extraction of the placenta was resorted to with success. On the fifth day the abdomen was greatly swollen, the hemorrhage returned with symptoms of metritis and total inability to swallow anything, and the constant complaint of a tired feeling. Death followed within twelve hours. Professor Penrose, of the University of Pennsylvania, recommends, as a styptic in cases of hemorrhage, especially of placenta prævia, the use of a lemon introduced and squeezed within the bleeding womb.

Case 6.—This patient was confined at full term, inherited a hemorrhagic diathesis, and had adherent placenta. Antiphlogistic and sedative treatment was instituted, but in vain. Symptoms of puerperal fever and septicæmia set in, and on the sixth day caused death.

Case 7.—This case was also accompanied by adherent placenta and septic poisoning. After the placenta had been peeled off and removed, on the third day the patient became seriously ill; had fever, corded pulse, pallor, tympanitis, swelling and extreme tenderness and pain of the abdomen. It was suspected that these symptoms were caused by the presence in the womb of a portion of the placenta. Examination

proved this suspicion to be correct. When the mass had been carefully removed and the patient was put upon the use of sulpho-carbolate of soda and salicylic acid, each twenty grains, and repeated, with an injection of carbolic acid, the unfavorable symptoms speedily yielded and the patient recovered.

In conclusion it may be added that accidents and the dangers attending childbirth may be often averted by strict attention on the part of the practitioner to the condition of the patient during the period of pregnancy. And in this connection the writer will not hesitate to assert his belief that the late talented and learned Dr. Napheys, by the publication of his treatise, "The Physical Life of Woman," conferred a boon on woman for which even the profession may be grateful.

EDITORIAL DEPARTMENT.

PERISCOPE.

ABSTRACTS OF PAPERS READ BEFORE THE BRITISH MEDICAL ASSOCIATION.

As has been our custom heretofore, we give a series of selected abstracts of papers read before the last meeting of the British Medical Association, taken from the Journal of the Association.

Nervous Affections Dependent on Gout.

BY J. RUSSELL REYNOLDS, M.D., F.R.S.

In this paper Dr. Reynolds gave the following reasons for believing that many so-called "nervous affections" are due to a gouty habit: 1, the actual presence of gout in the joints of the individual at the time or at previous times; 2, the evidence of gout in ancestors or collateral relations; 3, the frequent occurrence of acid eructations, with chronic dyspepsia; 4, the emission of pale, limpid, acid urine, of low specific gravity, and with traces of albumen or sugar, or both; 5, the variability of symptoms, both as to kind and place; 6, the presence of some alteration in skin nutrition, such as eczema, psoriasis, etc.; 7, the impossibility of referring the symptoms to any known disease of the brain or spinal cord; 8, the immediate relief of the symptoms after treatment by colchicum and saline aperients. He classified the symptoms of which he spoke under the following groups: 1. Mental disturbances; 2. Pain in the head; 3. Modified sensations (vertigo, noises in the ears, deafness, numbness, etc., in the limbs, sciatica, various muscular pains, etc.); 4. Modifications of muscular action (palpitation and various affections of the muscles of the limbs). As guides in diagnosis, he referred briefly to disorders of the stomach, varicosity of veins, brittleness of the nails, and slight conjunctivitis.

On the Mortality of Pleurisy Considered in Relation to the Operation of Paracentesis Thoracis.

BY WILSON FOX, M.D., F.R.S., LONDON.

The object of this paper was to show that paracentesis thoracis, even when practiced with small trocars, and aspiration, or other means adapted to prevent the entry of air into the pleura, is not always so safe and innocuous an operation as is now frequently taught. The author held that the operation is not to be withheld when urgent reasons exist for its performance, such being grave dyspnœa, threatened failure of cardiac action, hectic, or signs of purulent infection. It is not, however, to be accepted as the best or the safest mode of getting rid of the fluid, or as an operation to be resorted to whenever fluid, whether in large or in small quantity, is found in the thorax; for undoubtedly the safest and best mode of the removal of serous effusion is by spontaneous absorption, and even in purulent effusions a spontaneous external perforation is a much less dangerous and fatal event than an artificial opening. The papers contrasted the mortality of hospital statistics in pleurisy with that of operation by paracentesis, and showed that the latter is vastly in excess of the former, even when allowance is made for the probably more severe nature of the cases selected for operation. The author specially pointed to the contrast in this respect offered by serous effusions, the mean mortality of which in recent operations by paracentesis is 16 per cent., but which without operation do not prove fatal (except in the rarest instances) in uncomplicated cases. One chief cause of this mortality after paracentesis of serous effusions is the occurrence of purulent transformation subsequent to the operation, of the reality and fatality of which proof is given by tables. The author believed this transformation to be in most cases directly due to the operation, and he therefore held that this should not be performed in cases of serous effusion without grave reasons of urgent necessity. The paper concluded with some remarks on the high mortality of operations in cases of purulent effusion, amounting even within recent periods to a mean of 45 per cent., and in some series of recent observations to 50 per cent., of the cases operated upon, which, therefore, regarding the necessity of the operation in the latter class of cases as a question in some respects *sub judice*, the author considered that

improvements in the method of treatment are still urgently required.

The Treatment of Pleuritic Effusions.

BY T. CLIFFORD ALLBUTT, M.D., LEEDS.

The author divided his subject into the following heads: 1. Dry pleurisies; 2. Inflammatory pleurisies with highly fibrinous exudations; 3. Quiet pleurisies with large serous effusion; 4. Empyema; 5. Pleural dropsy. 1. With dry pleurisies, of course, he had not to deal. 2. Acute fibrinous pleurisy is usually attended with moderate effusion, which ebbs when the flow is complete. He gave a full account of his treatment of these cases and of the hastening of the ebb of sluggish effusion. In some cases the effusion becomes so excessive as to demand operative interference, but, fortunately, they do not, as a rule, tend easily to run to pus. The difficulty with them is the presence of fibrin which blocks the trocar. The aspirator is useful in these cases, and repeated punctures are better than fumbling at one opening. There is no need to empty the cavity, as absorption is generally set quickly going, and, except in cases of a low type, reaccumulation is not to be expected. 3. Quiet pleurisies with copious effusion generally need operation. If the chest be full, it should not be delayed an hour, as sudden death may occur at any moment, or, if on the right side, anasarca of the legs, etc. If not quite filling the cavity, the presence of a large quantity of fluid soddens and spoils the lung, and tends to pus. In these cases the aspirator is undesirable; it is better that the lung should expand quietly. The cavity need not be wholly emptied, as absorption often completes the cure. As there is in these cases a strong tendency to the formation of pus, the operation should be carried out on the antiseptic plan. Reaccumulation does not occur as a rule. 4. Empyema should be removed at once by free incision in a dependent part, on the antiseptic plan, and antiseptic dressing kept up. Repeated aspiration is objectionable; it rather favors absorption, and does not prevent the formation of a pulmonary fistula. Moreover, it is impossible to say when a patient is cured, as remains of pus may break out months or years afterward, and may decompose *in situ*, or may set up tuberculosis. After operation, any increase of temperature is a mark of imperfect drainage or bad nursing. No method can make a vast internal abscess of the chest anything but a terrible malady. If a pulmonary or other fistula have formed, the counter-opening must, nevertheless, be made in the same way, and the chest drained. 5. Pleural dropsies, though dependent on disease elsewhere, may always be tapped readily if the symptoms be urgent. The tapping is as simple as the tapping of ascites, but must be more gradual, as pressure cannot be used. There is no probability of pus transformation; but, if convenient, the tapping may be done under an antiseptic atmosphere.

On the Importance of Preserving a Vacuum in the Pleural Cavity after Paracentesis of the Thorax.

BY ROBERT J. LEE, M.D., LONDON.

The effect of admitting air into the pleural cavity is to diminish or entirely annul the atmospheric pressure on which expansion of the lung depends in respiration. So long as a permanent opening exists, as in the treatment of hydrothorax or empyema with a drainage tube, atmospheric pressure is induced in inverse ratio to the quantity of air which passes into the pleural cavity. The method of treatment proposed in this communication combined the advantages obtained from the use of the drainage tube with those which belong to the aspirator. The instrument consisted of an ivory cup attached closely to the thorax over the opening of the drainage tube, to which cup an apparatus for exhausting the air in the pleural cavity was adapted, by which means atmospheric pressure might be constantly and gently exerted on the lung. The term "continuous aspiration" was proposed for this method of treatment. The general accuracy of the theory on which it depends had been satisfactorily tested with an elastic cup similar to the india-rubber cupping-glass, which adheres by its expansile power. Various modifications had been made in this, the first instrument used; and now a separate exhauster had been adopted, by which the atmospheric pressure might be regulated and sustained. The author was indebted to Mr. W. D. Napier for the suggestion that the respiratory movements of the thorax and abdomen might be used as the exhausting power; a special apparatus was in process of manufacture, under the direction of Mr. Napier and the author, by Messrs. Maw, Son & Thompson.

Abstract of Cases of Pleurisy Treated by Paracentesis.

BY D. J. LEECH, M.B., MANCHESTER.

The paper contained a notice of nineteen cases in which paracentesis had been performed, with a short account of fourteen in which the subsequent history was known. In the other five cases the patients were lost sight of, after being tapped once. It also included a history of five cases of pleuritic effusion in which the operation had been considered desirable, but in which, from one cause or other, it had not been performed. Of the nineteen cases treated by paracentesis, all but one bore the operation well. The exceptional case suffered from intense dyspnœa whilst the fluid was being drawn off, from which, however, he recovered. Of the fourteen whose ultimate history was known, five were dead. The number of deaths which had occurred in those on whom paracentesis had been performed tended to show that the operation was not so uniformly successful as some had assumed. Of the five deaths, two were due to phthisis, which, in one of the cases at least, had nothing to do with the operation

for removing the fluid. A third died, more, perhaps, from a second tapping being delayed than from a second one being performed. In only one case did paracentesis seem to do harm. In this case air entered into the pleural cavity at the moment of the withdrawal of the trocar, before the tap of the canula could be turned. The patient took a deep inspiration just at the time of the removal of the trocar. In a case of empyema after scarlet fever, the patient was operated on three times; on the last occasion with a large trocar, the air being allowed to enter freely, but no drainage tube being kept in. The entrance of the air on this occasion seemed to have a deleterious effect. The sudden death of two cases in which the accumulation of fluid in one pleural cavity was a chief if not a sole cause of the disaster, showed, however, the danger of waiting too long before performing paracentesis. The impressions left by the experience of cases to which attention was called were these: 1. It is not advisable to interfere early, unless there be great dyspnœa and a very large accumulation of fluid; for—*a*. The operation of tapping tends toward the conversion of serous into purulent effusions; *b*. If the chest be not full of fluid, the danger of air entering the pleural cavity is great; *c*. Large accumulations of fluid which form rapidly are often rapidly and completely absorbed. 2. Pleuritic effusions that have lasted more than a few weeks without change in quantity rarely undergo absorption, require operation, and in nearly all cases do well.

On Some Points in the Clinical History of Chorea.

BY W. R. GOWERS, M. D., LONDON.

The object of the paper was to illustrate by cases some points in the common or occasional clinical history of chorea which have hitherto received little attention. 1. An increase in the irritability of nerve and muscle to electrical stimulation, to both faradic and voltaic stimulation. The change can be observed best in cases of hemi-chorea. Five cases were narrated in which it was observed, and in some of these it was proved to disappear on the subsidence of the chorea. The same fact has been noted by Benedikt and Rosenthal, who have also observed a change in the nerve reaction to voltaism, which Dr. Gowers partially confirms. The significance of the increased irritability is probably an altered state of nutrition of the fibres of the nerves, and of the motor nerve cells of the spinal cord, under an irritation transmitted downward from the diseased cerebral region, and is another illustration of altered nutrition in functional disturbance. 2. The relation of the muscular disturbance of chorea to voluntary movement. The incoördination of voluntary movement varies independently of the spontaneous spasmodic movements. Instances were mentioned in which the spontaneous movements were slight, and the incoördination great, in which there was much spontaneous movement, and little or no incoördination, and in which the relative proportion of the two varied at different periods of the same attack. Reasons were given for regarding the incoördination as something distinct from mere inability of the will to still the spontaneous spasm. As far as the observations went, they suggested the conclusion that the spontaneous spasm was in excess late in a case and during relapses. The independent variation of the two elements suggests that they depend on a morbid condition of distinct and perhaps separate regions. 3. The relation of chorea to other convulsive affections. If chorea depends on an unstable condition of gray matter, it is not surprising to find it occasionally associated with other diseases which we ascribe to a similar instability, such as hystero-epileptic and epileptoid convulsions of various kinds, and even true epilepsy. In illustration of this, a series of cases were narrated, exhibiting—1. Chorea, with remarkable chorea-epileptic seizures during the height of the affection; 2. General chorea, succeeding unilateral convulsions of six months' duration; 3. Chorea, succeeded immediately by persistent unilateral convulsions and hystero-epileptic fits; 4. Chorea, more severe on one side, succeeded immediately by convulsions on that side; 5. Chorea, followed after an interval of some years by epileptoid seizures; 6. Chorea, succeeded after many years by true epilepsy.

Rapid Death in Diabetes Mellitus.

BY BALTHAZAR FOSTER, M. D., BIRMINGHAM.

Dr. Foster described cases of diabetes in which death came on quickly without any apparent cause; the premonitory symptoms being pain in the hypochondriac regions, lessened secretion of urine, great restlessness, and dyspnœa of a peculiar kind. The inspirations were deep and ample, filling all the chest; the respiratory murmur exaggerated; the pulse small and rapid; and the surface cold. Toward the end of the case signs of collapse occurred, and finally coma. Dr. Foster discussed the mode of origin of these symptoms, and drew attention to a peculiar condition of the blood which he had observed; a remarkable creamy appearance, reddening on exposure to air, and showing, under the microscope, a large amount of molecular matter, from breaking down of blood corpuscles. These appearances, Dr. Foster had found, could be produced by adding acetone to healthy blood. Other substances failed to produce them. The development of acetone in the blood of diabetics was known to occur, and Dr. Foster considered that the group of symptoms which he described might be referred to poisoning by acetone, and might be called acetonæmia, a term already employed by Cantani, in Italy, and by some German physicians.

Observations on Renal Affections in Children.

BY W. H. DAY, M.D., LONDON.

Dr. Day said that, if less frequent than some of the other ailments to which early life is liable, renal affections in children are of more than ordinary gravity and interest. It is not yet

settled whether albumen is excreted by the epithelial lining of the tubules, or thrown out with the liquor sanguinis in the glomeruli of the kidney, and reabsorbed along with the great bulk of the water as the urine passes down the tubules. He divided albuminuria into temporary and permanent. Persistent and permanent albuminuria indicates disease of the kidney; temporary and passing albuminuria does not necessarily involve structural change. An illustrative case was then related. He thought that albuminuria in many cases was owing to some loss of functional power to reabsorb albumen on the part of the epithelial lining of the tubules—in some cases due to congestion, and possibly in other cases to excess of albumen in the blood. He then related a case of persistent albuminuria, extending over two years to his knowledge, without any deterioration of the general health. The significance of albuminuria in children is not yet perfectly appreciated. It would be often found, if looked for, in cases where its presence is not suspected.

Asthma Nervosum Cured with Arsenic Inhalations and Galvanization.

BY ADOLPHE WAHLTUCH, M.D., MANCHESTER.

Seven cases came under the author's observation within the last six years; four patients suffered from nervous asthma only, three also from frequent attacks of bronchitis catarrhalis; in one case, the father and sister were likewise subject to asthma. The treatment consisted in—*a*. Inhalations: twice a day the use of the spray of a solution of arsenical salts, such as the arseniate of potash, of soda, of ammonia, in gradually increasing doses (one-sixth to one-half of a grain); *b*. Galvanization: the daily application of a continuous current, for five minutes, and gradually increasing the current from five to thirty small Smee's cells, to each of the nervi vagi separately. 1. A gentleman, aged twenty-three, suffered nine years from asthma nervosum; under treatment six months, freedom from attacks five years and a half. 2. A gentleman, aged twenty-five, three years ill; treatment one month, no attack during five years. 3. A gentleman, aged thirty-eight, one month ill; treatment one month, no attack since, two years. 4. A lady, aged twenty-three; father and sister suffering from asthmatic attacks; twelve years ill; five months under treatment, had no attack since, a year. 5. A lady, aged forty two, eight years ill; six months under treatment, no attack since, eight months. 6. A lady, aged thirty-three, a year ill; a fortnight under treatment, greatly benefited. 7. A lady, aged thirty-seven, fourteen years ill; one month under treatment, benefited. The last three patients were also subject to catarrhal bronchitis.

Syphilitic Aphasia.

BY C. R. DRYSDALE, M.D., LONDON.

Dr. Drysdale in this communication narrated the histories of four cases of syphilitic disease accompanied by aphasia. The first case related to a gentleman of eminence, who in 1851 contracted syphilis, and had consulted him for several years for vertigo and other symptoms, which he (Dr. Drysdale) had put down to this disease. In 1871, this gentleman was seized with complete aphasia and right hemiplegia, both of which remained incurable and still persisted. In another case, the disease came on in the first year of the patient's disease, and during the period when a universal eruption of syphilitic roseola was present. In this case there was almost complete aphasia, with right hemiplegia. Both symptoms persisted, although both became a little ameliorated by time. The seizure took place in 1869, and the patient, a man, remained helpless up to 1875, when last seen. The third case related to a gentleman who contracted syphilis in 1870, and died of it in 1876. In this case the vertigo mentioned in the first case was very well marked and distressing. It persisted for years, the patient becoming of violent temper, and culminated in 1876, in aphasia and paresis of the left extremities, with epileptiform attacks, in one of which he eventually died. The fourth case referred to a man who had contracted syphilis five years before, and contaminated his wife, who had several dead children. Here there supervened a fit of aphasia, which remained permanent, but which was not accompanied by hemiplegia or paraplegia. Dr. Drysdale had seen other cases in the practice of his medical brethren in London and Paris, and thought that the diagnosis of syphilitic aphasia, although often obscure, might, with care, usually be made out. The age at which such disease takes place is, on an average, some thirty-four years. Far more men than women suffer from it, perhaps thrice as many. The prognosis is very bad; about one-half of the cases die in a few years. In the case of non-syphilitic aphasia, which is almost always due to an organic cause, such as softening of the frontal convolutions of the left anterior lobe, caused by embolia of the Sylvian arteries, there is almost always some point which distinguishes this form from that due to syphilis. Probably syphilitic aphasia more frequently than ordinary aphasia coincides with left hemiplegia; but, at any rate, there is a great variety in the nervous symptoms observed in syphilitic aphasia, as compared with ordinary aphasia. Syphilis may attack several parts of the connective tissue in the cranium at once; and, even when confined to one spot, its influence radiates round about it, so as to cause the production sometimes of aphasia with palsy of the upper extremities and anæsthesia of the lower, or accompanied by paraplegia, or by double hemiplegia and ptosis. Occasionally, as in one of the cases above cited, it is merely the power of speech which is affected; and of course the intellect suffers, and notably the memory. Large doses of iodide of potassium, fifteen grains every two hours, or even more, are indicated at the commencement of attacks of syphilitic aphasia. Mercury also may be given.

On Current Measurement in Electro-Therapeutics.

BY J. DIXON MANN, L.K.Q.C.P.I., MANCHESTER.

The writer, after alluding to the difficulties in the way of estimating the dose of electricity administered to a patient, the result partly of variations in the battery and partly of variations in the cutaneous resistance of the patient, described a galvanometer which he had devised for medical use. This instrument gives indications of absolute current value, constant for all instruments constructed after this method, enabling any one accurately to record or reproduce a given dose of electricity. As showing the necessity of current measurement, Dr. Mann instanced the results obtained by Charcot, Luys and Dumontpallier in investigating the *modus operandi* of Burq's method of treatment; these investigations showed that the beneficial results of M. Burq's system were due to electrical action, and that the success of the treatment depended entirely on the dose administered, a current of from ten to fifteen degrees producing effects on the patient which ceased when the galvanometer was deflected to forty-five or sixty degrees. Dr. Mann then proceeded to give the result of a series of original investigations made by him for the purpose of determining the amount of fibrin precipitated from the blood by a measured current in a measured time, with a view of ascertaining the current strength most suitable for the electrolytic treatment of aneurism.

On the Treatment of Hip-Joint Disease by Extension, with Motion, as practiced by the American Surgeons.

BY WILLIAM ADAMS, F.R.C.S., LONDON.

The object of the author in the present paper was to direct attention to the recent advances which had been made in the treatment of hip-joint disease by the American surgeons, to whom we are indebted for the discovery of two very important principles, and also for their practical application by means of most ingeniously contrived instruments. The first principle is that of extension as a means of relieving the most acute pain in joint-diseases, especially applicable to the knee and hip-joint disease. The second principle is that of extension combined with motion, applied during the treatment of hip joint disease, so as to promote recovery with free motion in the joint, instead of the ordinary result of an anchylosis obtained by long continued rest and immobility. The principle of extension for the relief of pain is applied by means of the weight-and-pulley apparatus whilst the patient is in bed. The principle of extension with motion is applied during the subacute and chronic stages of hip-joint disease, by means of instruments which enable the patient to walk and take outdoor exercise without crutches, and without bearing any weight on the affected limb. The instruments now generally in use in America for the application of extension with motion, whilst the patient is allowed to walk, are those invented by Dr. Taylor and Dr. Sayre of New York, and also one by Dr. J. C. Hutchinson, of Brooklyn, all of which are improvements on the instruments first invented for this purpose, in the year 1855, by Dr. Henry Davis, of New York, who, in his work on *Conservative Surgery*, p. 212, also claims to have discovered the principle of weight-extension for the relief of pain. The author's experience in the use of these instruments was very limited; but during his recent visit to America he had seen them applied with advantage in a large number of cases, and he expressed a hope that English surgeons would submit them to the test of practical experience.

Dr. Sayre (New York) exhibited his splint for hip-joint disease, and gave a description of the most recent improvements in it. These consist in the addition of screws whereby the limb can be abducted and rotated; while flexion and extension, or forward and backward movement, can be effected, if desirable, by a movement of the upright of the splint at the abdominal belt. Further, flexion at the knee can be performed by means of a hinge and screw in the upright on a level with that joint.

The President spoke in favor of the splint, though in practice he had found that the relatives or friends who have the care of the patients never keep the perineal strap properly adjusted.

(To be Continued.)

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——*Vick's Floral Guide*, No. 4, for 1877. At the beginning of 1878 the author promises to issue an illustrated monthly.

——"Morphia in Childbirth," by W. S Lusk, M.D., Professor of Obstetrics, Bellevue Hospital Medical College. Reprint from the *American Journal of Obstetrics and Diseases of Women and Children*. The conclusion arrived at, from a limited number of observations, is that there is no reason to apprehend any direct effect to the child from morphia hypodermically administered to the mother during labor. The propriety of its use is to be determined by pure obstetric considerations. In fact, the author thinks it may conduce indirectly to the welfare of the child, when given to meet some urgent need in the mother.

——"Aiken as a Health Station," by W. H. Geddings, M.D., of Aiken, S. C. Reprint from the *Charleston Medical and Surgical Journal*.

THE

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THE PROBLEM OF OVER-POPULATION.

The study of vital statistics has hardly any more important application than that to the problem of population. Political and social economy anxiously scans that problem in order to draw from it laws for the regulation of the State and the family.

It is well known that the Rev. Mr. Malthus propounded the law that unless limited by certain checks, such as pestilence, war and famine, or by the preventive means of celibacy, late marriages, unproductive unions, etc., the human race would increase in a geometrical ratio; while, on the other hand, the food resources of a nation (exclusive of importation) cannot be made to increase in more than an arithmetical ratio.

As a purely theoretical formula this has never been impugned. But, in point of fact, the checks spoken of are constantly in action. While we are now writing, the daily papers are filled with the accounts of a war which is slaughtering men by the thousands and tens of thousands (including camp diseases) every day; a famine is prevailing in India whose victims will certainly reach up into the millions, and another in China, apparently even more destructive. Then, again, there are the oft-quoted facts that in certain countries and in certain classes of society few children are born to a marriage, while in other countries and in other classes many are born, but nearly all die in infancy. In Iceland, in the Scotch Isles, in the Isles of France, though the wives are fecund, the infants perish so fast that the population of the country retrogrades rather than increases.

Then, again, much depends on the amount of food at hand or in expectation. The easier it is to get, the more of it there is, the readier are persons to reproduce.

Taking these and other points into consideration, a recent writer in the *Annales de Demographie Internationale* states the actual law as follows:—

"In a healthy country, in the same race and in the same condition of mental culture, the population will proportion itself to the amount of productive labor which is readily accessible, suited to the said race and to its degree of culture."

The mental cultivation of the class, or people, has very much to do with the question; in fact, almost everything to do with it. As the mind rises in power, and, no longer subject to the impulses of sensual passion, governs and guides the life by the light of reason, and with the aid of prudence and foresight, the danger of exceeding the supplies of food is understood and prevented, either by a sedulous study of the means of increasing the supply, or else by an exercise of self-control which limits the number of the family. Acting throughout large classes, or whole nations, these influences materially alter their statistics, as we recently showed.

We believe, therefore, that if mental culture,

in its best sense, is constantly regarded, as it should be, as the chief end of man, there is no danger of over-population. This conclusion has been strongly stated lately by Dr. BENJAMIN W. RICHARDSON, of London, in an address before the Sanitary Institute of Great Britain. He used the following words, deprecating the fear of over population: "It is felt by some," he observed, "that the medical sanitarian of the future will have his best efforts thwarted by the forcible excess of life beyond the means that can be found for the support of life, as if life were a mere secondary principle in the universal order. I see no such cause for fear. That in the progress of life on the earth the day will ever come when the earth will not supply food for its people, is, to my mind, pessimism carried to an insane vulgarity. It is clear that man can always reduce to his wants the lives of all animals except man. The question rests, therefore, on the abnormal increase of man alone. Nature knows that, and rules accordingly. . . . . I think it my duty to deal plainly with a question which affects so closely the future of sanitation, and to express, from an experience which is confirmed, as I know, by some of the highest ornaments of my learned profession, that nothing is wanted to correct the danger of over-population but *improvement of mental process;* nearer communion with the Eternal Mind in His works; purer artistic education, healthier homes, more rational amusements, and the ennobling influence of a holier life among those who assume to be the cynosures of the nation."

Although there is not that distinctness of utterance here which the speaker promises, we believe that in effect the danger of over-population will be diminished the less the proletary and ignorant class in a community.

How much can be done to increase the amount of food in a country by judicious study of propagation, has been strikingly shown of late years by the remarkable yields of corn and potatoes obtained by the careful selection of seed, and its scientific cultivation.

NOTES AND COMMENTS.

Electricity of the Heart.

Muscular contraction, it is known, is always accompanied with electric phenomena; the difference of electric potential between two points of a muscle undergoes a diminution, which, according to Bernstein, precedes, by about one one-hundredth of a second, the contraction of the muscle. This electric variation has been observed on various muscles, and in particular on the heart (by Du Bois Reymond and Kühne), and recently M. Marey has represented it graphically by photographing the indications of a Lippmann capillary electrometer. The *Journal de Physique* states that M. De la Roche has tried the experiment on the heart of a living man. Two points of the epidermis of the chest were connected with the poles of a capillary electrometer, by means of electrodes, formed each of a bar of amalgamated zinc, with a plug of muslin at its lower end, saturated with sulphate of zinc. Held with insulating handles, the bars were applied, one with its plug opposite the point of the heart, under the left nipple, and the other to another point of the chest. The mercurial column was then seen to execute a series of very distinct periodical pulsations synchronous with the pulse; each pulsation even marked the double movement of the heart (of the auricles and ventricles).

Carbolic Acid in Glycosuria.

Dr. Garnier records a case of glycosuria which was treated very successfully by carbolic acid. Equal parts of carbolic acid and alcohol were mixed, and of this solution two minims were given for a dose. At no time during the treatment did the dose of the acid exceed six minims per diem. He also records a case of puerperal eclampsia occurring before parturition, due to uræmic poisoning, which he treated successfully with carbolic acid.

Dr. H. Fischer, of Breslau, administers carbolic acid to diabetic subjects before surgical operations. The carbolic acid treatment in diabetes was first recommended by Ebstein and Müller. Fischer reports that if carbolic acid be given in small and frequently-repeated doses it will in a short time cause a considerable reduction in the amount of sugar in the urine, and permit the surgeon to operate with the

ordinary chances of success. The use of the carbolic acid should be kept up during the after-treatment, and not be discontinued until the wound be quite closed.

The Prevention of Venereal Disease.

According to the latest reports, the beneficent character of the English Acts for the prevention of gonorrhœa and syphilis continue to yield admirable results. The remarkable thing about the figures of this report is the diminution in the number of prostitutes and brothels which is taking place wherever the Acts are in force. Surely it is something gained for the cause, not only of morality, but also of humanity, in the fact that during the year seventy-four girls between the ages of twelve and eighteen, and seventy-four between the ages of eighteen and thirty, and five above that age, who had been found in bad company and improper places, were rescued; and that one hundred and forty-six (thirty-seven of them between twelve and eighteen) who had commenced an immoral life, abandoned it on being cautioned by the police, and were not placed upon the register.

Pedestrian Training.

Last month a pedestrian named Smyth, and appearing under the name of "The American Postman," achieved the task of walking three hundred miles in six days, at Dublin. His regimen during the walk was as follows: He takes a small chop and some cocoa for breakfast. In two hours afterward a raw egg beaten up. His dinner consists of a sago pudding and a small quantity of very raw beef, without drink, and his supper of as much cocoa and bread and butter as he wishes. Each day he is allowed a quart of milk and occasional sips of ginger ale. He takes no alcoholic beverage whatever.

Mortality of Infants in Berlin.

According to the Report of the Board of Health of the city of Berlin, infantile mortality has reached an alarming height in that city. During the last week in June 722 children under one year of age died, chiefly of diarrhœal diseases. The mortality under 5 years, 852. It is stated that a committee has been appointed to inquire into the causes of this excessive mortality, and to examine particularly the nature and quality of the food supplied to infants.

The Anthropoid Apes.

Professor Garrod, of London, stated, in a recent lecture, that he had dissected seventy apes out of the anthropoidal class, and one of them exhibited the vermiform appendage of the cæcum, or blind gut, which is characteristic of man. But the anthropoids have it quite humanly developed. The hands and feet of an orang recently dead were exhibited along with those of a man, and presented the same structure. Professor Garrod showed that the structural resemblances between the anthropoid apes and man are so close that the reason for the mental and moral differences remains still an unsolved problem. Perhaps the most striking and important portion of his discussion was that in which he proved that the vocal organs of man are present also in the anthropoid ape. The ape does not converse, and yet the difference between his vocal apparatus and that of man is so infinitessimal as to defy observation. It is to this point that physiological investigation must now be particularly directed.

The Surgical Use of the Omentum.

Dr. Kenneth McLeod, in a late paper from his experience in India, gave an account of a large number of cases of penetrating wounds of the abdomen where the omentum protruded. Consideration of such instances led to the belief that this was a special provision by which the intestines or other abdominal viscera were prevented from protruding from such penetrating wounds. After a detailed analysis of the cases, Dr. McLeod considers the anatomy of the omentum, the natural history of such cases, and the treatment. The omentum might be washed and reduced under antiseptic precautions, or it might be left unreduced. Ablation of the recently protruded mass was both unnecessary and dangerous; but, if irreducible, some advised a previous enlargement of the wound, and then reduction.

An Example of Maternal Impression.

The following curious instance is given by a correspondent of the *British Medical Journal*:

I was called to see a child aged fifteen months, suffering from small-pox. When examining it, I observed a mark on the outer side of the left leg, about five inches in extent, of a brownish color, unaffected by pressure, and which bore a most striking resemblance to the profile of a bull, the eye, ear and mouth being remarkably

distinct. On questioning the mother, she informed me that, when about seven months pregnant, she was knocked down in the street by a bull, and in the fall she hurt her right leg against a box. She fainted, and was carried home in that condition. On recovery, and for some days subsequently, her leg, at the seat of injury, was very painful. When the child was born she noticed the mark. This woman was of an extremely nervous disposition.

Carbonic Acid in the Atmosphere.

The following table gives the amount of carbonic acid in various localities, in 10,000 parts of atmospheric air:—

Over Lake Geneva (De Saussure),	mean,	4.39.
City of Manchester (Augus. Smith),	do	7 6
City of Munich (Vogel)	do	3 to 4
City of London (Roscoe),	do	3.7
Over Atlantic Ocean (Leny),	do	4.7
Madrid Hospital Ward,	do	4.3
German Beer Saloon,	do	4.9
Munich School Room,	do	72.

Dialyzed Iron.

A New York exchange states that dialyzed iron is becoming very popular in that city. It is asserted that several preparations have appeared which are not dialyzed, and consequently give the unpleasant taste and effect of the ordinary preparations of iron. The dialyzed iron should be tasteless.

Deaths from Anæsthetics.

Deaths from anæsthetics continue to be reported with alarming frequency in England. Two occurred in one week in London, one under chloroform, the other under a mixture of chloroform and ether. Fatty degeneration was found in both instances, at the post-mortems.

Preparation of Celluloid.

This substance, much used in dentistry, is prepared as follows:—

Paper is treated by a continuous process with five parts of sulphuric acid and two of nitric acid, which convert it into a sort of gun cotton. The excess of acid is removed by pressure, followed up by washing with abundance of water. The paste, when thus washed, drained, and partially dried, is ground in a mill, mixed with camphor, ground again, strongly pressed, dried under a hydraulic press, between leaves of blotting paper, cut, bruised, laminated, and compressed again in a special apparatus suitably heated. It is said to be hard, tough, transparent, elastic, fusible, becoming plastic and malleable at 125°. It ignites with difficulty, is decomposed suddenly at 140° without inflammation, and gives rise to reddish flames. It is inodorous, and does not become electric on friction.

Correspondence.

Ingrowing Toe-nail.

Ed. Med. and Surg. Reporter:—

In looking over your journal of August 11th, page 110, I see a little report on "Ingrowing Toe-nail" (so-called), which will pass into the literature of the profession as the authority of the "College of Physicians and Surgeons of New York," for the treatment of this troublesome affection. While I agree fully with the writer's pathology, and what he says as to the causation of the disease, I was struck with the singularly useless advice as to treatment. No doubt the loose shoe and the astringent applications would allow many of the less severe cases to recover, but the use again of a moderately tight shoe would reproduce the old trouble. In most cases you will find the trouble on the inner side of the great toe, and where the second toe, as it rests upon the bottom of the shoe, is a little lower than the edge of the great toe; as a consequence, the pressure of the second toe is upward and outward, crowding the soft tissue directly against the hard edge of the nail. The usual consequence is, that, sooner or later, there is irritation, chronic inflammation, hypertrophy, and ulceration. The old operation of extirpation of the nail is useless, and based upon a mistaken pathology; and the same may be said of scraping the centre of the nail, cutting out a part, and all operations upon the nail. *It* is not at fault. Many of the milder cases will get well by relieving the edge of the great toe from pressure by tying the second toe with a small piece of roller bandage, so that it will ride well over upon the top of the great toe, and thus relieve the soft parts from the upward pressure against the sharp edge of the nail. Some, I say, not all. When hypertrophy and ulceration take place, this will not do.

For these bad ones, I have, in several instances, performed a very trifling surgical operation, and in no instance have I seen it fail. Take a sharp-pointed bistoury and insert it close to, and well up, opposite to the root of the nail on the inner side; press it downward, and a little inward, until it emerges well down toward the bottom on the inner aspect of the toe. Then cut toward the end of the toe, the edge of the knife hugging the border of the nail. You will thus detach a flap, including the entire diseased tissue and a little more. Then cut the flap off at its base. Dress with cool

water. The wound will heal smoothly by granulation, leaving the edge of the nail bare and powerless for mischief. The operation is not a painful one, hemorrhage very trifling, and, so far as my observation goes, is entirely satisfactory and efficient in relieving this most distressing affection. S. M. HAMILTON, M. D.

Monmouth, Ill.

Dose and Mode of Administering Nitrate of Silver.

ED. MED. AND SURG. REPORTER:—

Many years since I began to administer this remedy, giving a grain in an ounce and a half of pure water in the morning before breakfast, for chronic inflammation of the stomach and bowels. I have continued it with the most gratifying results, in dyspepsia, with its various morbid symptoms. As I don't weigh it any longer, I have given, no doubt, one and a half grains per dose at times; I have weighed five grains and divided it into four doses, often. I find it sometimes vomits; sometimes purges actively; and sometimes produces no decided sensation. But it is the best alterative and tonic to the mucous membranes of the stomach and bowels I have ever tried. I give it alone for that. I generally give a dose every other morning, until two, three or four doses have been taken. I always put it up in blue paper, to be dissolved in four tablespoonfuls of rain water, when used, and drank on an empty stomach before breakfast, always. In this way and for this purpose I use a great deal, with results highly gratifying to my patients as well as myself.

I have been induced to give this my experience in the use of nitrate of silver from noticing several articles on the subject in the REPORTER. I have acquired quite a reputation for curing epilepsy. I give nitrate of silver (with other remedies) simply to restore the mucous membranes of the stomach and bowels to a healthy condition; I never continue it long; seldom give more than four to six or eight doses; when I give more than four, I leave considerable interval between the first and second course. I don't depend upon that article alone in the treatment of epilepsy.

Ville Platte, La. D. W. FOSTER.

NEWS AND MISCELLANY.

The Ancient Hotel Dieu.

A recent Paris letter says of this venerable structure:—Of the old Hotel Dieu, which will soon have disappeared, we will alone speak of the "cagnards," one of the most curious, and at the same time one of the least known, portions of the hospital. The cagnards are the rooms built under the water terrace and above the cellars. In the reign of Henry IV (at the beginning of the seventeenth century, that is) these cagnards were destroyed; one alone was spared, which may still be seen, near the Petit Pont. It can be easily recognized by its Gothic window and iron bars.

The cagnards which still exist are vaulted halls, chiefly occupied by the pharmacy of the hospital. For the lover of antiquity, this pharmacy is an interesting place. None of the shine and elegance reigns there that mark the shops of modern chemists. The counters, the seats, and the whole accessories are in solid oak, blackened by age, and polished by continual friction. Instead of the regulation colored bottles, earthenware and pewter jars of the strangest forms line the shelves, reminding one of the days of Moliere's apothecaries, or the dear old Speziaria of the once existing Italian convents. The bronze mortar in daily use dates from the reign of Louis XIII (1610-1643), and the set of brass weights are of no mean antiquity. In another part of the cagnards is a secret room, in which took place some of the first experiments in anatomy that were practiced in France. Here it was that, in 1526, but a short time, it will be remembered, after Andre Vesale, of Vesalius, had made his anatomical studies in Italy, Francis I's doctor secretly dissected, in presence of a few enthusiasts, the body of a tortured man which had been bought, at an enormous cost, from the executioner. But these rare operations were done only in secret, for the Church would have absolutely forbidden such a profanation had it been known.

Before closing this hurried notice of the old Hotel Dieu, let us not forget to notice the most ancient portion of the building which is destined so soon to be demolished. It formerly was part of the constructions executed by order of Blanche de Castile, and is, therefore, more than 600 years old. It is in the subterraneous chapel of the Salle St. Thomas. The architecture is simple, not a trace of foliage nor the slightest ornamentation. The vault is ogival and accompanied by rounded mouldings, as in all edifices of the thirteenth century. But, were it not for its antiquity, the chapel would possess little or no interest. For a long time past it has been used as a wine cellar.

Health Indications.

Dr. Snow, in his last report as City Registrar of Providence, R. I., says:—

It is quite generally predicted that there will be an unusual amount of typhoid fever during the coming autumn, though the reasons we see given for this opinion are of a directly opposite character.

It seems probable that we shall have considerable diphtheria this fall and winter, and the most active exertions should be made immediately to remove the supposed causes of this disease, especially the offensive odors from privy vaults and sink drains. By so doing, it is certain that comfort will be greatly increased, and disease and death prevented. It should also be remembered by every one that we have no more right to poison the families of our

neighbors than our own, with these offensive odors. We ought to be as careful to disinfect our vaults when they are located near our neighbors' windows as when they are near our own.

The Yellow Fever Epidemic.

The following telegrams mark the extension of the epidemic:—

JACKSONVILLE, Fla., September 11.—There was one death from yellow fever last night at Fernandina, and three new cases to-day. Nurses and a doctor are en route from Savannah. The weather is reported unfavorable.

SAVANNAH, September 11.—The Mayor of Fernandina has telegraphed to the Mayor of this city for medical aid and nurses, and Dr. McFarland leaves here to-morrow for that city. A dispatch from the Mayor of Brunswick to the *Morning News* emphatically denies the report of yellow fever, and says there is no sickness of any kind in that place.

Personal.

—The W. and S. Tuke prize of one hundred guineas has been awarded to Edward C. Spitzka, M. D., of New York city, for the best essay on the "Somatic Etiology of Insanity."

—Dr. Lewis A. Sayre, of New York, is describing to the medical men of England his plaster of-Paris treatment of spinal curvature.

—Mary Smith, a graduate of Mount Holyoke Seminary, and who has been for over two years studying medicine at Zurich, Switzerland, is visiting her home at Westfield, Mass. She returns next month, to complete her course, and will then begin to practice in this country. Thus, little by little, the Smith family are being turned to a good account.

—Dr. Hiram Corliss, an eminent physician and surgeon of Greenwich, N. Y., died recently, at the age of 84 years. He was the father of the Hon. George H Corliss, the engine builder.

Items.

—In the marriage notice of Dr. Ott, (REPORTER, Sept. 1), that gentleman was mentioned as "Physician to the University of Pennsylvania." What was intended was to say that he had been Demonstrator of Physiology in the University of Pennsylvania. His investigations in that branch have been extensive, and highly esteemed.

—M. Recordon, of Geneva, has invented a machine by which blind people can write at once in characters meant for their blind brethren and in ordinary letters legible with the eyes.

—In regard to the combustion of oxygen, by one gas burner, it is considered to be equal to that used by eight men.

—The average height of man is greater in this country than in France.

Obituary Notes.

—Dr. William Leroy Stevens, House Surgeon to St. Peter's Hospital, of Brooklyn, died in that city June 24th, 1877, from the effects of a dissection wound received June 15th.

—M. Alfred Deshairs, aged thirty-four years, Assistant to the Chair of Chemistry in the College de France, was recently found stretched on the floor of his laboratory in the rue Cujas, where he lived. He had been dead two days. It is supposed, judging from the surroundings, that he was accidentally poisoned.

QUERIES AND REPLIES.

The Hypophosphites.

Dr. S. S.—The most approved mode of administering the hypophosphites is to give, say of the hypophosphite of lime, as much as will lie on a ten-cent piece, thrice daily. It should be kept in a close-stoppered bottle. If it deliquesces it becomes inert. The hypophosphite of quinine is given in doses of three grains.

Dr. J. C., of Pa.—The freckle lotion you ask for is not familiar to us.

McC., W. Va.—Apply to the author, Ann Arbor, Michigan.

Dr. P. H. V., of Texas.—Dr. Shelly distinctly stated in his article that the substance referred to had long been a popular remedy.

MARRIAGES.

BOLLES–SOUDER.—On August 15th, at the residence of the bride's sister, by Rev. J. H. Mickle, of the New Jersey Conference, Dr. J. B. Bolles and Miss Emma F. Souder, both of Philadelphia.

DUNGLISON—FISHER.—On August 23d, at St. Mary's Church, West Philadelphia, by the Rev. Thomas C. Yarnall, Richard J. Dunglison, M.D., and Violette Fisher.

GOULD—ROWELL.—In Coventry, Vermont, August 1st, by Rev. D. P. Wild, Dr Ozias B. Gould and Ella L. Rowell, both of Coventry.

OSBORNE—OSBORNE.—On August 29th, at the residence of the bride's father, by the Rev. William H. Neilson, rector of St. Michael's, Trenton, New Jersey, Dr. Richard H. G. Osborne, of Bedford, Pennsylvania, and Ada Isabella, only daughter of John H. Osborne, Esq., C. E., of Summerside, Morrisville, Bucks county, Pennsylvania.

DEATHS.

BURDEN.—In Philadelphia, suddenly, on August 31st, of heart disease, Dr. Jesse R. Burden, son of the late Jesse R. Burden, M.D.

BRADY.—In Brooklyn, September 10th, 1877, John A. Brady, M.D., in the 46th year of his age.

COATES.—On the 22d ult., Mary Penn-Gaskell, wife of Dr. Isaac T. Coates, of Chester, Pennsylvania, and daughter of the late Peter Penn-Gaskell.

GILL.—On the 27th ultimo, Charles M. Gill, M.D., son of Charles and Elizabeth Gill.

JACKSON.—On the 4th instant, John Jackson, M.D., of Philadelphia.

TAUNER.—At Riverton, New Jersey, on Thursday, August 30th, 1877, at 1.30 P. M., Elizabeth Levis Tauner, wife of John Tauner, M.D., LL.D., aged fifty-eight years and twenty-five days.

WOOLSTON.—In Philadelphia, on the 2d instant, Dr. Samuel Woolston, aged seventy-three years.